



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,503	03/31/2004	Vladimir Gorelik	GK-EIS-1076 / 500593.2006	8215
26418	7590	08/31/2007	EXAMINER	
REED SMITH, LLP			LE, THI Q	
ATTN: PATENT RECORDS DEPARTMENT			ART UNIT	PAPER NUMBER
599 LEXINGTON AVENUE, 29TH FLOOR			2613	
NEW YORK, NY 10022-7650				

  

MAIL DATE	DELIVERY MODE
08/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

7H

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/815,503	GORELIK ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Thi Q. Le	2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 12 June 2007.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,2 and 4-6 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,2 and 4-6 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 31 March 2004 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

This Action is in response to Applicant's amendment filed on 6/12/2007. **Claims 1-2, 4-6** still pending in the present application. **This Action is made FINAL**

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

### *Information Disclosure Statement*

2. The information disclosure statements (IDS) filed on 11/07/2005, 03/31/2004 and 10/04/2004 were considered by the examiner.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
  1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.

Art Unit: 2613

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 1-2** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Speciale (US Patent # 6,301,034)** and in view of **Bogut et al. (US Patent # 5,333,205)**.

Consider **claim 1**, Speciale clearly shows and discloses, a sensor comprising: a diaphragm (read as, diaphragm 117; figure 1), wherein at least on one side the diaphragm further comprises a surface which reflects a light beam (read as, reflective surface 131; figure 1); a first optical waveguide (read as, optical fiber 127; figure 1) being constructed on said side as a transmitting waveguide, through which a light beam passes and strikes against the diaphragm; a second optical waveguide (read as, optical fiber 139; figure 1) being constructed at a specific angular relationship with respect to the first optical waveguide, said second optical waveguide having the function of a receiving waveguide and into which light reflected from the diaphragm enters (figure 1; column 5 lines 28-48); and a focusing lens which is melted onto an end of the first optical waveguide (read as, lenses 129 attached to optical fiber 127; figure 1, column 5 lines

Art Unit: 2613

28-48). Speciale fails to specifically show, light beam reflected from the one side of the diaphragm is focused onto the end face of the second waveguide.

In related art, Bogut discloses a microphone assembly comprising two optical waveguides (108 and 110; figure 2), diaphragm 124 and mirror 202. Wherein, light beams reflected off mirror 202 are incident onto flared out portion 204 of fiber 110 (note, Bogut shows another apparatus and method for receiving reflected light beams from a diaphragm)

It would have been obvious for a person of ordinary skill in the art at the time of the invention to modify apparatus and method for receiving reflected light beams onto fiber 139 of Speciale with the apparatus and method of Bogut. Since, the essential function is for receiving reflected light beams, there are various method for focusing the reflected light beams onto an end surface of a waveguide, such that the light beams are carry to a photodetector. Bogut provides a waveguide with a wide area for collecting reflected light beams; thus, a stronger light signal is transmitted to the photodetector.

Consider **claim 2, and as applied to claim 1 above**, Speciale modified by Bogut, further discloses, wherein the sensor is a microphone (Speciale, abstract).

7. **Claims 4-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Speciale (US Patent # 6,301,034)** and in view of **Bogut et al. (US Patent # 5,333,205)** and further in view of **Farr et al. (US Patent # 6,853,767)**.

Consider **claim 4, and as applied to claim 1 above**, Speciale modified by Bogut fail to specifically disclose that the optical lenses are made from glass.

It is well known in the art, that the majority of focusing lens are made from glass.

Further, in related art, Farr et al. disclose the method of manufacturing optical coupling elements. Wherein the optical coupling elements are an array of spherical glass lenses with circular apertures (figure 1a, column 2 lines 34-43).

It would have been obvious for a person of ordinary skill in the art at the time of the invention to incorporate the teachings of Farr et al. with Speciale, because Farr et al. disclose a method for producing spherical glass lenses with circular apertures at a lower cost than conventional method. Thus reducing the cost of producing the photo-microphone.

Consider **claims 5 and 6, and as applied to claim 1 above**, Speciale modified by Bogut and Farr et al. further disclose, wherein the focusing lens system is a spherical lens (Farr shows, spherical lens array; figure 1a), a biconvex or a planoconvex lens, a cylinder lens or a lens made from SU8; and wherein the focusing lens system is drop-shaped and/or has a circular cross section (Farr shows, the spherical lenslets have a circular apertures) (Farr, figure 1a, column 2 lines 34-43).

#### *Response to Arguments*

8. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2613

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

11. Any inquiry concerning this communication or earlier communications from the

Art Unit: 2613

Examiner should be directed to Thi Le whose telephone number is (571) 270-1104. The

Examiner can normally be reached on Monday-Friday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

*Thi Le*



KENNETH VANDERPUYE  
SUPERVISORY PATENT EXAMINER